



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,606	05/31/2001	Ib Johannsen	0459-0611P	7054

30593 7590 06/02/2003

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER

NGUYEN, TUAN DUC

ART UNIT	PAPER NUMBER
----------	--------------

2643

DATE MAILED: 06/02/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/867,606	Applicant(s) JOHANSEN ET AL.	
	Examiner Tuan D. Nguyen	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4 and 6</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2643

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II including claims 23-42 in Paper No. 9 is acknowledged. The traversal is on the ground(s) that without serious burden. This is not found persuasive because the different inventions group I is directed to a method for manufacturing a condenser microphone and classified in class 29 subclass 25.41; and group II is directed to a condenser microphone and classified in class 381 subclass 174. Moreover, these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2643

3. Claims 23-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,512,833 (Himori et al) and in view of U.S patent number 5,870,482 (Loeppert et al)

Regarding claims 23 and 32-36, Himori et al discloses a condenser microphone comprising a diaphragm (column 7 lines 37-38 item 120) and a back-plate (column 7 line 57 item 110), wherein an inner surface of said diaphragm forms a capacitor (column 7 lines 57-61) in combination with an inner surface of said back-plate, said back-plate and/or said diaphragm is/are provided with a number of openings (column 8 lines 38-39 item 142), and said inner surfaces being provided with a hydrophobic layer (column 10 lines 14-41).

Himori et al does not restrict to the static distance between said diaphragm and said back-plate is smaller than 10 micron m.

However, Loeppert et al discloses the static distance between said diaphragm and said back-plate is smaller than 10 micron m (column 6 lines 9-12).

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the various dimension needed for the capacitor gap by Loeppert et al in Himori et al for controlling sound pressure (column 6 lines 9-36).

Regarding claims 25-29, Himori et al does not specify the dimension of the openings.

However, Loeppert et al also teaches the smallest dimension of each of the openings (column 9 lines 27-58).

Art Unit: 2643

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the various dimension needed for the openings by Loeppert et al in Himori et al for controlling the damping (column 9 lines 27-58).

Regarding claims 30-31, Himori et al does not disclose a specific hydrophobic material.

However, Himori et al teaches the insulating material may be made other material (column 13 lines 4-8).

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use other hydrophobic material for preventing moisture.

Regarding claim 24, Himori et al does not disclose wherein at least the inner surfaces of the diaphragm and the back-plate are made from a hydrophilic material.

However, the hydrophilic material is well known for absorbing water.

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the well known hydrophilic material in Himori et al for the underwater application.

Regarding, claims 37-38, Himori et al does not disclose the hydrophobic layer has a contact angle for water.

However, Himori et al does not restrict to any contact angle for water.

Art Unit: 2643

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to change the contact angle for water for preventing moisture.

Regarding claims 39-41, Himori et al does not disclose a temperature range for the hydrophobic layer.

However, Himori et al does not restrict to any temperature. Moreover, the operating temperature range for the condenser microphone is well known.

Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the temperature range for operating the condenser microphone.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan D. Nguyen whose telephone number is (703) 305-7168. The examiner can normally be reached on M-F 8:15-4:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (703) 305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Art Unit: 2643

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TDN

May 27, 2003


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600